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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)


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| Applicant's or agent's file reference MSP614 | | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416) | |
| International application No. PCT/EP 03/04347 | International filing date (day/month/year) 08.04.2003 | Priority date (day/month/year) 10.04.2002 | |
| International Patent Classification (IPC) or both national classification and IPC B05D7/24 | | | |
| Applicant DOW CORNING IRELAND LIMITED | | | |

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.
 - ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

- This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

| | |
|---|--|
| Date of submission of the demand 08.09.2003 | Date of completion of this report 22.07.2004 |
| Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 | Authorized Officer Polesak, H Telephone No. +49 89 2399-8628 |



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/04347**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-19 as originally filed

Claims, Numbers

7-16 as originally filed

1-6 filed with telefax on 25.06.2004

Drawings, Figures

1, 2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/04347**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|------|
| Novelty (N) | Yes: Claims | 1-16 |
| | No: Claims | |
| Inventive step (IS) | Yes: Claims | 1-16 |
| | No: Claims | |
| Industrial applicability (IA) | Yes: Claims | 1-16 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Regarding Point V

(1) WO-A-01 15764

(2) US-A-5 723 219

1. Claim 1 lacks clarity in the sense of Article 6 PCT as feature (i) that at least one polymerisable organic acid monomer and/or at least one polymerisable organic base monomer is subjected to a soft ionisation plasma process does not clearly exclude the possibility that the substrate may be coated with either a polymer resulting solely from the polymerisable organic acidic monomer or the polymerisable organic base monomer. Feature (i) is thus not consistent with feature (ii) which states that the polymeric coating contains salts that are formed between acidic and basic functional groups of the polymeric coating.
2. The term "soft ionisation plasma process" has no specific meaning, rendering what is claimed unclear. It should be replaced by specific parameters for the plasma process, such as the applied average power, (Article 6 PCT).
3. It is clear from the description that a mixture comprising a polymerisable organic acid monomer and a polymerisable organic base monomer is subjected to the ionisation plasma process during its deposition onto the substrate. Since independent Claim 1 does not contain this feature it does not meet the requirement following from Article 6 PCT that any independent claim must contain all the technical features essential to the invention.
4. The closest prior art is represented by document (1) which also describes (see (1): page 3, lines 2 to 24; page 4, line 19 to page 5, line 6; page 6, lines 4 to 19; claims 1, 4, 7, 9) a method of forming a polymeric coating on the surface of a medical device comprising the steps of activating a polymerisable organic acid and/or base monomer by a soft ionisation plasma process and depositing the monomers onto the substrate surface thereby forming a polymeric coating retaining the acidic and/or basic functionality of the monomers.
5. The method of forming a polymeric coating of Claim 1 is distinguished from that of document (1) essentially by the feature that the polymeric coating contains salts that are formed between acidic and basic functional groups of the polymeric coating. The requirements of Article 33(2) PCT regarding novelty are hence met. The significance of the structural difference between the polymeric coating of the

present application and that of document (1) is that the resulting coating may be given a predetermined acidic or basic functionality, whereas in document (1) the substrate is coated with a polymer resulting solely from the polymerisable organic acidic monomer or the polymerisable organic base monomer.

6. Document (2) teaches a three dimensional film network comprising a plurality of sequentially plasma deposited film layers, each film layer comprising different groups of either acidic or basic functionality. The RF plasma polymer films are deposited at a power of at least 90 W. Document (2) is thus not concerned with the deposition of a mixture comprising a polymerisable organic acid monomer and a polymerisable organic base monomer that is activated by a soft ionisation plasma process in which very low power is applied, for example of less than 10 W. The approach of the present application is hence not obvious in the light of the prior art, hence the method of forming a polymeric coating of claim 1 also satisfies the requirements of Article 33(3) PCT as regards inventive activity.
7. As a corollary, dependent Claims 2-14 which give particular embodiments of the invention and independent Claims 15 and 16 which claim the coated substrate per se and the use of the substrate as a biocompatible, antifouling barrier coating or as filtration and separation media also comply with PCT Articles 33 (2)-(4).
8. The description should be made consistent with the claims and should include a proper acknowledgement of the prior art, Rule 5.1 (a) (ii) PCT.